

DEATH-FEIGNING IN THE GRAY-BANDED KINGSLAKE *Lampropeltis alterna*

Death-feigning (letisimulation) has been reported for a number of snake genera (see reviews by Gehlbach 1970; Carpenter and Ferguson 1977) but not for kingsnakes, genus *Lampropeltis*.

On 28 May 1973, one of us (RKG) came upon an adult female *Lampropeltis alterna* on the road after dark 16 km W Lajitas, Presidio County, Texas. The snake was first seen in the headlights of the car with a ringtail cat (*Bassariscus astutus*) standing over it. The cat ran off the road as the car came to a halt but the snake remained motionless. It was initially assumed that the specimen had been struck by a car though no obvious injury could be detected, and that the cat was scavenging a road kill.

The specimen was limp throughout examination and did not attempt to right itself when placed on its back. After a minute or two, the specimen was placed in a semi-coiled position in the car and driving commenced. Approximately 10 minutes later the specimen was noted to be missing from the seat. Several minutes of searching revealed it actively crawling through the springs under the seat. At this time it appeared totally active and

uninjured, and was later placed in the collection of the Dallas Zoo where successful reproduction occurred in later years. Similar behavior was not subsequently seen in this specimen.

On 30 August 1979, a group of eight neonate *L. alterna* was routinely weighed and measured one day after hatching. After being measured, one specimen became limp with neck slightly crooked and mouth slightly agape. When left undisturbed, the specimen slowly righted itself and began crawling normally. When touched, it quickly assumed the death-feigning position. This result was obtained several times in succession. Rough handling after the initial episode, however, failed to produce similar behavior.

In September 1980, a group of 18 hatchlings of this species was utilized to determine if this type of behavior could again be elicited through human handling. Each was placed on a carpet and tapped with a flat hand several times, once crawling began. Through repeated trials, specimens defecated and often coiled loosely and remained motionless with heads tucked beneath or between body coils, and began crawling a few seconds to several minutes after harassment was discontinued. None, however, exhibited feigning type behavior.

We feel that the death-feigning noted in two isolated instances could have been induced by odors or other stimuli from "natural" (versus "unnatural") predators. *L. alterna*, being almost entirely nocturnal, would be instinctively cautious of predatory mammals, such as *B. astutus*, and these predators represent a "natural" threat to this species whereas man may not. What caused one of the neonates to react in this manner is unknown, but since the squeeze-type measuring box had been used for numerous other species of young snakes, including *L. getulus holbrooki*, perhaps this was also induced by odors from "natural" predators.

The presence of death-feigning behavior in *L. alterna* after exposure to these types of stimuli but never, at least as far as is known, to that from man (an "unnatural" predator) during collection or harassment leads us to believe that death-feigning may only be elicited in some species under conditions not normally observed by man. Further, it is probable that this behavior may be partially or entirely dependent upon olfactory cues rather than physical harassment in some species. Another interpretation is that death-feigning in some species is a polymorphic behavioral trait, possessed only by some individuals. Additional research using a variety of "natural" and "unnatural" predator odors may eventually bear this out.

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LITERATURE CITED

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